

POLUEKTOV, N.S.; KONONENKO, L.I.; VITKUN, R.A.; NIKONOVA, M.P.

Quenching europium luminescence in crystals of chelate compounds in the presence of other rare earth elements. Opt. i spektr. 17 no.1:73-77  
J1 '64. (MIRA 17:9)

ACCESSION NR: AP4042981

S/0051/64/017/001/0073/0077

AUTHORS: Poluektov, N. S.; Kononenko, L. I.; Vitkun, R. A.;  
Nikonova, M. P.

TITLE: Quenching of luminescence of europium in intra-complex  
compounds in the presence of other rare-earth elements

SOURCE: Optika i spektroskopiya, v. 17, no. 1, 1964, 73-77

TOPIC TAGS: europium, luminescence quenching, rare earth element,  
energy level, spectrum analysis

ABSTRACT: With an aim at its possible application to analysis, a  
study was made of the effect of extraneous rare earth elements on  
the glow intensity  $I_{Eu}$  of europium in precipitates of mixed phenan-  
throline-atrphane and phenanthroline-tenoiltrifluoroacetone complex-  
es. The experimental procedure is described. A correlation was es-  
tablished between  $\log I_{Eu}$  and the difference between the energy of

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L 2107-65

EMT(m)/EMP(q)/EMP(b) AFWL/ESD(gs)/RAEM(t) JD/JG

ACCESSION NR: AP4042624

S/0075/64/019/007/0829/0834

AUTHOR: Kononenko, L. I.; Tishchenko, M. A., Poluektov, N. S.

TITLE: 4-sulfophenyl-3-methylpyrazolone-5 as a reagent for the fluorimetric determination of dysprosium and terbium

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 7, 1964, 829-834

TOPIC TAGS: dysprosium, terbium, quantitative analysis, spectro fluorimetric analysis, sulfophenyl methylpyrazolone, color reagent, rare earth element analysis, sensitivity

ABSTRACT: 4-sulfophenyl-3-methylpyrazolone-5 is a sensitive reagent for the spectrofluorimetric determination of Dy and Tb upon excitation with ultraviolet radiation from a mercury tube; work was conducted with an ISP-51 spectrograph with a FEP-1 photoelectric device. This reagent gives green fluorescence with Tb, light orange with Dy, weak fluorescence with Sm and none with Er. The intensity of the fluorescence with Dy and with Tb is a linear function of the rare earth concentration; maximum intensity occurs at pH 6-7 and is developed within 20 minutes. There are three molecules of reagent per one Dy in the fluorescent

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ACCESSION NR: AP4042624

dysprosium compound. The sensitivity of the determination of Dy is low in the presence of Sm, and the method is not too suitable for determination of Dy in Tb, but Dy and Tb may be determined by the method of additions in other rare earth oxides and their mixtures. The sensitivity of the method is 0.04-0.1% for  $Dy_2O_3$  and 0.001-0.004% for  $Tb_4O_7$ . Orig. art. has: 1 formula, 4 tables and 6 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Laboratorii v Odessa (Institute of General and Inorganic Chemistry, AN UkrSSR, Odessa Laboratory)

SUBMITTED: 29Jul63

ENCL: 00

SUB CODE: GC, QP

ED REF SOV: 004

OTHER: 000

Card 2/2

ACCESSION NR: AP4040757

S/0073/64/030/006/0629/0635

AUTHOR: Poluektov, N. S. ; Vitkun, R. A. ; Kononenko, L. I.

TITLE: Determination of europium in microquantities by fluorescence

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 6, 1964, 629-635

TOPIC TAGS: europium fluorescence, europium determination europium complex , europium, microquantity, fluorescence, fluorescence intensity, measurement

ABSTRACT: This work was prompted by the complexity of conventional fluorescent methods of detecting europium requiring special phosphoroscopes, preparation of samples by calcination or melting, and complex spectrographic technology. The authors developed a sensitive method for determining microquantities of europium by measuring the fluorescence intensity of a phenanthroline-atophan complex of rare earths in suspension. This complex cation  $(\text{MePhen}_2)^{3+}$  forms difficultly soluble salts with some acid anions. In presence of europium in the complex, bright fluorescence in the UV light of mercury lamp is observed. This method permits the determination of

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ACCESSION NR: AP4041765

S/0032/64/030/007/0779/0783

AUTHORS: Kononenko, L. I.; Poluektov, N. S.; Nikonova, M. P.

TITLE: Extraction fluorimetric determination of samarium and europium in a mixture of oxides of rare earth elements

SOURCE: Zavodskaya laboratoriya, v. 30, no. 7, 1964, 779-783

TOPIC TAGS: rare earth element, rare earth analysis, fluorimetric determination, samarium, europium, samarium phenanthroline thenoyltrifluoroacetone, europium phenanthroline thenoyltrifluoroacetone, triple samarium complex, triple europium complex, benzene complex extraction, spectrograph ISP 51, fluorescent spectrum

ABSTRACT: A method for extracting and analyzing rare earths is presented. It involves the formation of triple complexes of samarium and europium with phenanthroline (PT) and thenoyltrifluoroacetone (TTFA). These complexes are extracted with benzene, and are examined fluorimetrically. From 1 to 2 ml of the solution containing the chlorides of Sm and Eu at a pH range of 4-5 are placed into a separatory funnel. To these solutions are added 1 ml of a 4% solution of urotropin, 0.1 ml of a 0.5% alcohol solution of TTFA, and 0.15-0.25 ml of a 3% alcohol solution of PT. The mixture is diluted with water to the 5-ml mark, allowed to stand

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KONONENKO, L.I.; TISHCHENKO, M.A.; POLUEKTOV, N.S.

4-Sulfophenyl-3-methyl-5-pyrazolone as a reagent for the  
fluorometric determination of dysprosium and terbium.  
Zhur. anal. khim. 19 no.7:829-834 '64.

(MIRA 17:11)

1. Institute of General and Inorganic Chemistry, Ukrainian S.S.R.  
Academy of Sciences, Laboratories in Odessa.

L 4927-66 EWT(m)/EMP(j)/T/EMP(t)/EMP(b) IJP(c) JD/JG/RM

ACC NR: AP5026579

SOURCE CODE: UR/0073/65/031/010/1031/1035

AUTHOR: Kononenko, L.I. ; Melent'yeva, Ye. V. ; Vitjun, R. A. ; Poluektov, N. S. 24  
B

ORG: Odessa Laboratory, Institute of General and Inorganic Chemistry (Institut obshchey i neorganicheskoy khimii, Laboratorii v Odesse)

TITLE: Complexes of rare earth elements with acetylacetone and 1, 10-phenanthroline or 2, 2'-dipyridyl

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 31, no. 10, 1965, 1031-1035

TOPIC TAGS: yttrium compound, lanthanum compound, praseodymium compound, neodymium compound, samarium compound, europium compound, gadolinium compound, terbium compound, erbium compound, fluorescence spectrum

ABSTRACT: Ternary compounds formed by a rare earth metal with acetylacetone (AA) and phenanthroline (Phen) or dipyridyl (Dip) were synthesized from Y, La, Pr, Nd, Sm, Eu, Gd, Tb, and Er, and their composition and properties were studied. Chemical analyses showed that the ratio Me:Dip:AA is very close to 1:1:3. The probable structure of such ternary compounds with Eu and 2, 2'-dipyridyl may be represented as follows:

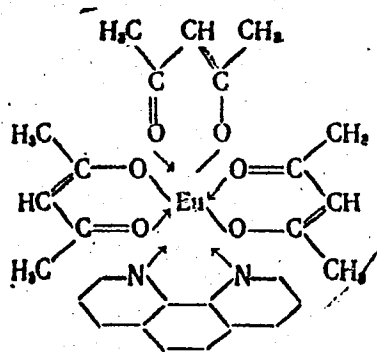
Card 1/2

UDC 541.49:546.65:535.372



L 4927-66

ACC NR: AP5026579



In connection with the use of rare earth  $\beta$ -diketonates in laser applications, the fluorescence characteristics of simple and ternary europium and terbium acetylacetonates are compared, and the spectra of the  $\text{Eu}^5\text{D}_0\text{-}^7\text{F}_2$  and  $\text{Tb}^5\text{D}_4\text{-}^7\text{F}_5$  bands are illustrated. It was found that the presence of acetylacetonate in the molecule of the complex increases the fluorescence brightness of terbium and reduces the fluorescence of europium. The fluorescence spectra of the dipyriddy complexes are similar to those of the phenanthroline complexes. Orig. art. has: 4 figures and 1 table.

SUB CODE: IC / SUBM DATE: 09May64 / ORIG REF: 005 / OTH REF: 005

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Card 2/2

L 6523-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) JD/JG/RM

ACC NR: AP5027206

SOURCE CODE: UR/0078/65/010/011/2465/2470

AUTHOR: Kononenko, L. I.; Tishchenko, M. A.; Vitkun, R. A.; Poluektov, N. S.

ORG: None

TITLE: 1,10-phenanthroline thenoyltrifluoroacetone complexes of rare earth elements

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 11, 1965, 2465-2470

TOPIC TAGS: samarium compound, europium compound, lanthanum compound, neodymium compound, dysprosium compound, yttrium compound, rare earth element

ABSTRACT: The turbidimetric technique was used to study the formation of ternary complexes of rare earth elements (r.e.e.) with 1,10-phenanthroline (Phen) and thenoyltrifluoroacetone (HTTA) in water-ethanol solutions. It was shown by means of the methods of molar ratios and isomolar series that insoluble complexes are formed in which the ratio of the components  $Me_{r.e.e.} : Phen : HTTA = 1:1:3$ . These ternary complexes of lanthanum, neodymium, samarium, europium, dysprosium, and yttrium were isolated and analyzed for the content of the r.e.e., 1,10-phenanthroline, and HTTA. The general formula of the compounds was found to be  $Me(C_{12}H_8N_2)(O_2C_3H_4CF_3 \cdot C_4H_3S)_3$ . It was established that the ternary complexes of

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UDC: 546.65:541.49

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ACC NR: AP5027206

samarium and europium exhibit a bright fluorescence, much brighter than that of simple thenoyltrifluoroacetates, when irradiated with long-wave ultraviolet light. The spectrum of the  $^5D_0-^7F_2$  band of europium in the ternary complex differs from the fluorescence spectrum of simple europium thenoyltrifluoroacetate. Orig. art. has: 7 figures and 1 table. [08]

SUB CODE: IC/ SUBM DATE: 13Apr64/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS: *4140*

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Card 2/2

ACC NR: AT5026379 EWI(M)/EWP(J)/I/EWP(t)/EWP(b) IJP(c) JD/JG/GS/RM

SOURCE CODE: UR/0000/65/000/000/0096/0106

AUTHOR: Poluektov, N.S.; Kononenko, L. I.

ORG: None

TITLE: Fluorometric methods of determining individual rare earth elements

SOURCE: AN SSSR. Institut geokhimii i analiticheskoy khimii. <sup>55</sup> <sup>55</sup> <sup>21</sup> Sovremennyye metody analiza; metody issledovaniya khimicheskogo sostava i stroyeniya veshchestv (Modern methods of analysis; methods of investigating the chemical composition and structure of substances), 96-106

TOPIC TAGS: rare earth element, analytic chemistry, fluorescence, electron transition, cerium, samarium, europium, terbium, dysprosium, lanthanum, yttrium, lutetium

ABSTRACT: The fluorometric method makes possible the solution of some specific problems in the analysis to determine the individual rare earth elements in their compounds, and it is particularly sensitive with respect to several of the elements. Existing fluorometric methods make use of either the fluorescent capabilities of ions of rare earth elements, or of the fluorescence of the organic part of the molecule of the complex formed with a suitable reagent. The present review deals mainly with methods which employ fluorescence related to the electron transitions in the 4f-shell. It is shown that the methods discussed are at present applicable for the determination of Ce, Sm, Eu, Tb, and Dy. The development of methods

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L 9804-66

ACC NR: AT5026379

of determining some other rare earth elements (La, Y, and Lu), based on the fluorescence of the organic part of the molecules of the complex is promising. Orig. art. has: 10 figures and 2 tables.

SUB CODE: 07 / SUBM DATE: 05Jul65 / ORIG REF: 016 / OTH REF: 011

Card <sup>n/</sup>2/2

KONONENKO, L.I.; MELENT'YEVA, Ye.V.; VITKUN, R.A.; POLUKHTOV, N.S.

Rare earth complexes with acetylacetone and 1,10-phenanthroline or 2,2'-dipyridyl. Ukr. khim. zhur. 31 no.10:1031-1035 '65.

(MIRA 19:1)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Laboratorii v Odesse. Submitted May 9, 1964.

L 32955-66 EWP(j)/EWT(m)/EWP(t)/ETI IJP(c) RM/JD/JG

ACC NR: AP6015743

SOURCE CODE: UR/0073/66/032/005/0508/0513

AUTHOR: Tishchenko, M. A.; Kononenko, L. I.; Vitkun, R. A.; Poluektov, N. S. 43

ORG: Odessa Laboratories, Institute of General and Inorganic Chemistry AN UkrSSR (Laboratorii v Odesse Instituta obshchey i neorganicheskoy khimii AN UkrSSR) B

TITLE: Use of pyrazolone derivatives for fluorometric determination of dysprosium 17

SOURCE: Ukrainskiy khimicheskii zhurnal, v. 32, no. 5, 1966, 508-513

TOPIC TAGS: dysprosium, spectrum determination, rare earth, fluorescence spectrum, nonmetallic organic derivative, terbium

ABSTRACT: The authors study the feasibility of using phenyl-3-methylpyrazolone-5<sup>1</sup>(PMP) and tolyl-3-methylpyrazolone-5 (TMP) to replace 4-sulfophenyl-3-methylpyrazolone-5 (SPMP) for fluorometric determination of dysprosium in oxides of other rare-earth elements. The usefulness of SPMP for determining dysprosium in the presence of terbium is limited due to partial superposition of the fluorescence bands as well as by the bright fluorescence of trivalent terbium ions. The structural formulas of the three compounds are shown in the figure. The reagents were used in the form of a 2.5% solution in ethanol. The fluorescence spectrum for complex compounds of Dy and Tb with the tolyl derivative show three bright bands in the visible region for the Tb complex with maxima at 488-497.5, 543-546 and 580 mμ and two bands for the Dy complex with

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UDC: 543.426-4:546.664

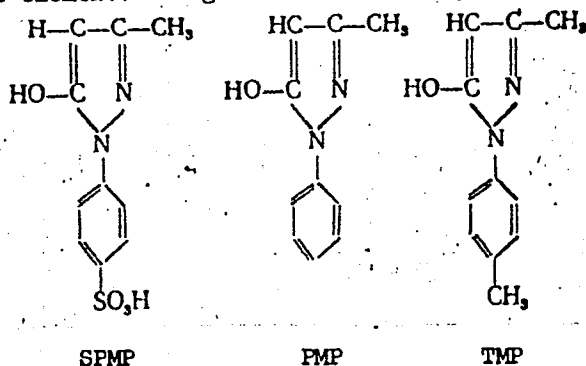
L 32955-66

ACC NR: AP6015743

APPROVED FOR RELEASE: 06/19/2000

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maxima at 482.5-487.5 and 573 mμ. The best bands for quantitative identification are at 573 mμ for Dy and at 543-546 mμ for Tb. Experiments were conducted to determine the effect of various factors on the luminescence intensity of a complex compound of Dy with PMP and TMP. The greatest relative luminescence intensity was observed in a solution with a pH of 6-7 with 5 mg of reagent in a total volume of 10 ml, allowing the solution to stand for 40 minutes after adding the reagents. The method developed for fluorescence determination of dysprosium may be used for identification of this element in mixtures of rare-earth oxides with a sensitivity of 0.005-0.1% Dy<sub>2</sub>O<sub>3</sub> depending on the nature of the basic element. Orig. art. has: 8 figures.



SUB CODE: 07/ SUBM DATE: 04Sep64/ ORIG REF: 006/ OTH REF: 002

Card 2/2

ACC NR: AP6019048

(N)

SOURCE CODE: UR/0078/66/011/002/002/0369/0373

AUTHOR: Melent'yeva, Ye. V.; Kononenko, L. I.; Poluektov, N. S.

ORG: none

TITLE: 1,10-Phenanthroline-dibenzoylmethane complexes of rare-earth elements

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 2, 1966, 369-373

TOPIC TAGS: rare earth element, samarium compound, europium compound, quantitative analysis, luminescence

ABSTRACT: The composition and some properties of the rare-earth complexes were studied, representing ternary systems composed of the rare-earth element, 1,10-phenanthroline (Phen), and dibenzoylmethane (DBM). An investigation of the isomolar series, turbidimetric determinations, and the quantitative analysis proved that the complexes showed a 1:1:3 molecular ratio of rare-earth element:Phen:DBM. The analytical results of the complexes studied are given in Table 1. The Sm and Eu complexes emitted luminescence at the 550-630 and 570-640 mμ ranges, respectively. The luminescence study of benzene solutions of the Eu complex showed that the 1:1:3 ratio remained valid. Orig. art. has: 8 fig. and 1 table.

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UDC: 546.65 : 541.49



ACC NR: AP6019048

Table 1. Results of the analysis of the Phen-DBM complexes of rare-earth elements

| Complex        | Color        | Melting temp. °C | Calculated, % |       |       | Found, % |       |       | Ratio Me:Phen:DBM |
|----------------|--------------|------------------|---------------|-------|-------|----------|-------|-------|-------------------|
|                |              |                  | Me            | Phen  | DBM   | Me       | Phen  | DBM   |                   |
| Y-Phen-3(DBM)  | yellow       | 180—182          | 9,47          | 19,26 | 71,27 | 9,36     | 19,15 | 71,45 | 1:1:3,03          |
| Nd-Phen-3(DBM) | lilac        | 182—183          | 14,50         | 18,13 | 67,37 | 14,33    | 18,06 | 67,30 | 1:1,01:3,04       |
| Sm-Phen-3(DBM) | yellow       | 182—184          | 15,03         | 18,02 | 66,95 | 15,00    | 17,90 | 66,85 | 1:0,95:3,00       |
| Eu-Phen-3(DBM) | straw-yellow | 184—186          | 15,17         | 17,98 | 66,85 | 15,09    | 17,86 | 66,75 | 1:1:3,00          |
| Tb-Phen-3(DBM) | yellow       | 185—186          | 15,77         | 17,85 | 66,38 | 15,60    | 17,80 | 66,30 | 1:1:3,03          |

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ACC NR: AP6019048

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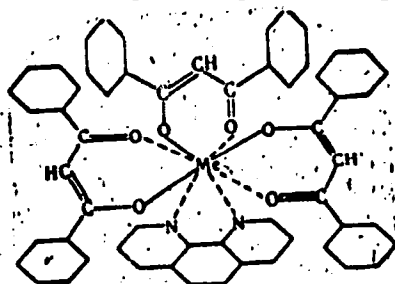


Fig. 1. Structure proposed for the complexes; Me = rare-earth element

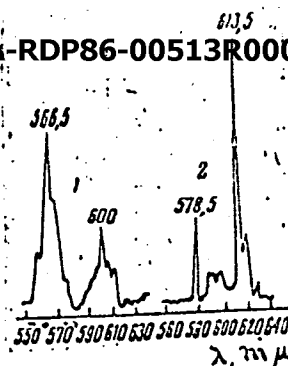


Fig. 2. Fluorescence spectra of the Me-Phen-DBM<sub>3</sub> complexes; 1 = Sn, 2 = Eu

SUB CODE: 07/ SUBM DATE: 15Jun64/ ORIG REF: 006/ OTH REF: 003

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L 08660-67 EWT(m)/EWP(j) RM  
ACC NR: AP6019047

(A)

SOURCE CODE: UR/0078/66/011/002/0363/0368

AUTHOR: Tishchenko, M. A.; Kononenko, L. I.; Vitkun, R. A.; Poluektov, N. S. 28

ORG: none

TITLE: Complexes of rare-earth elements with 1-phenyl-3-methylpyrazolone-5 and 1-tolyl-3-methylpyrazolone-5

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 2, 1966, 363-368

TOPIC TAGS: rare earth element, terbium compound, dysprosium compound, neodymium compound, yttrium compound, erbium compound, fluorescence

ABSTRACT: Complexes of Pr, Nd, Er, Y, Tb, and Dy with 1-phenyl-3-methylpyrazolone-5 or 1-tolyl-3-methylpyrazolone-5 were prepared by a modified Knorr's method (Ann. Chem. 238, 137, 1887). Urotropine was added to the reaction mixture to keep it neutral. The results of the analysis of the complexes prepared are given in Table 1. Among the complexes studied only the Tb and Dy complexes were fluorescent (See Figures 1 and 2).  
Orig. art. has: 5 fig. and 2 tables.

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UDC: 546.65 : 541.49

L 08660-67

ACC NR: AP6019047

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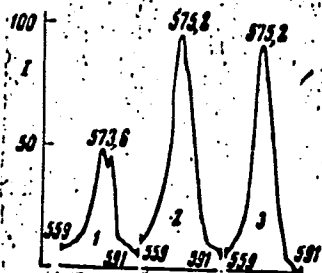


Fig. 1

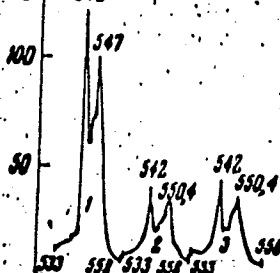


Fig. 2

Figures 1 and 2. Fluorescence spectra of Dy (Fig. 1) and Tb (Fig. 2) complexes with 4'-sulfophenyl-3-methylpyrazolone-5 (1), 1-phenyl-3-methylpyrazolone-5 (2), and 1-tolyl-3-methylpyrazolone-5 (3)

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L 08660-67  
ACC NR: AF6019047

Table 1. Results of the analysis of the phenyl-methyl- and tolyl-methylpyrazolone complexes

| Complex           | Melting point, C | Calculated, % |            |                  | Found, % |            |                  | Ratio Me:PhMP (or TMP) |
|-------------------|------------------|---------------|------------|------------------|----------|------------|------------------|------------------------|
|                   |                  | Me            | PhMP (TMP) | H <sub>2</sub> O | Me       | PhMP (TMP) | H <sub>2</sub> O |                        |
| Pr-tri (PhMP)-ate | 206-207          | 20,85         | 76,5       | 2,65             | 20,1     | 77         | 2,8              | 1:3,1                  |
| Nd-tri (PhMP)-ate | 210-211          | 21,2          | 76,16      | 2,64             | 21,0     | 75,8       | 3,0              | 1:2,98                 |
| Er-tri (PhMP)-ate | 208-210          | 23,8          | 73,6       | 2,6              | 22,9     | 73,7       | 2,9              | 1:3,08                 |
| Y-tri (PhMP)-ate  | 198-200          | 14,2          | 82,9       | 2,9              | 13,5     | 82,1       | 3,7              | 1:3,1                  |
| Tb-tri (TMP)-ate  | 208 10           | 21,5          | 76,0       | 2,4              | 20,3     | 76,0       | 2,6              | 1:3,15                 |
| Nd-tri (TMP)-ate  | 207-209          | 19,8          | 77,7       | 2,5              | 20,2     | 78,0       | 2,5              | 1:2,98                 |

Me = rare-earth element; PhMP = 1-phenyl-3-methylpyrazolone-5; TMP = 1-tolyl-3-methylpyrazolone

SUB CODE: 07/ SUBM DATE: 25Jun64/ ORIG REF: 003/ OTH REF: 006

Card 3/3 *note*

ACC NR:

AP7005539

SOURCE CODE:

UR/0075/66/021/011/1302/1304

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000824310017-5

AUTHOR: Kononenko, L. I.; Mishchenko, S. A.; Poluektov, N. S.

ORG: Institute of General and Inorganic Chemistry, UkrSSR Academy of Sciences, Laboratories (Institut obshchey i neorganicheskoy khimii AN USSR, Laboratorii) in Odessa

TITLE: Investigation of the fluorescent reaction for terbium with phenyl salicylate

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 11, 1966, 1392-1394

TOPIC TAGS: terbium, rare earth element, terbium analysis, fluorescence, salol, phenyl salicylate, reagent

ABSTRACT: A method for fluorimetric determination of terbium using phenyl salicylate has been introduced. The method can be applied to the analysis of concentrates of rare earth elements of the yttrium subgroup. The method has been tested on a number of samples of rare earth oxides. The mean experimental error is  $\pm 4.5\%$ . As a reagent for terbium phenyl salicylate (salol) was compared to

Card 1/2

UDC: 543.70

DMITRIYEVA, V.N.; KONONENKO, I.V.; BEZUGLYY, V.D.

Effect of structure on half-wave potentials of aromatic  
aldehyde anile. Teoret. i eksper. khim. 1 no.4:456-461 '65.  
(MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut monokristallov, Khar'kov.

KONONENKO, M.

Exciting documents ("Soviet man in space." Reviewed by M. Kononenko).  
Nauka i zhyttia 11 no.5:58 My '61. (MIRA 14:7)  
(Astronautics)

ALEKSEYEVA, T.V., kand. tekhn. nauk; ARTEM'YEV, K.A., kand. tekhn. nauk; BROMBERG, A.A., prof.; VOYTSEKHOVSKIY, R.I., inzh.; UL'YANOV, N.A., kand. tekhn. nauk; Prinimal uchastiye KONONENKO, M.A., inzh.; FEDOROV, D.I., kand. tekhn. nauk, retsenzent.

[Machines for earthwork; theory and calculation] Mashiny dlia zemlianykh rabot; teoriia i raschet. [By] T.V. Alekseeva i dr. Izd.2., perer. i dop. Moskva, Izd-vo "Mashinostroenie," 1964. 467 p. (MIRA 17:5)

UL'YANOV, Nikolay Aleksandrovich, kand. tekhn. nauk; BAZANOV, A.F.,  
kand.tekhn.nauk, retsenzent; KONONENKO, M.A., inzh., red  
SAVEL'YEV, Ye.Ya., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Fundamentals of the theory and design of wheeled tractors  
for excavating machinery] Osnovy teorii i rascheta kolesnogo  
dvizhitelia zemleroinykh mashin. Moskva, Mashgiz, 1962.  
206 p. (MIRA 16:4)

(Tractors--Design and construction)

(Excavating machinery)

ZALENSKIY, Vyacheslav Stanislavovich; KONONENKO, M.A., red.;  
BOCHAROVA, Yu.F., red.izd-va; YEZHOVA, L.L., tekhn. red.

[Hoisting and conveying, and construction machinery] Pod"-  
emno-transportnye i stroitel'nye mashiny; primery raschetov  
i spravochnye materialy. Izd.2., dop. i perer. Moskva,  
Gos.izd-vo "Vysshaya shkola," 1963. 362 p. (MIRA 16:10)  
(Construction equipment)



GORSKIY, B.Ye.; NIKOLAYEVSKIY, G.M., kand. tekhn. nauk,  
retsenzent; KONONENKO, M.A., inzh., red.

[Hinge-jointed crane jibs] Sharnirno-sochlenemye uko-  
siny kranov. Moskva, Mashinostroenie, 1965. 182 p.  
(MIRA 18:3)

MARCHENKO, N.D.; KONONENKO, M.P.

Tractor inclinometer. Trakt. i sel'khoz mash. no. 8:38 Ag '65.  
(MIRA 16:10)

1. Kavkazskiy filial Tsentral'nogo nauchno-issledovatel'skogo  
instituta mekhanizatsii i energetiki lesnoy promyshlennosti.

KONONENKO, M.P., inzh.-mekhanik

Norms for the power consumption of stationary engines. Mekh. sil'.  
hosp. 14 no.8:18-19 Ag '63. (MIRA 17:1)

KONONENKO, M.P., nauchnyy sotrudnik

Establishing work norms for mechanized stationary operations.  
Mekh. sil'. hosp. 12 no.12:10-12 D '61. (MIRA 17:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut ekonomiki  
i organizatsii sel'skogo khozyaystva.

L 25716-66 EWT(d)/EWP(h)/EWP(l)

ACC NR: AP6004213 (A) SOURCE CODE: UR/0331/65/000/010/0009/0011

AUTHOR: Marchenko, N. D.; Livanov, A.P.; Kononenko, M. P.; Mushta, V.F.  
Soshnikov, A.A.

ORG: (Marchenko, Livanov, Kononenko, Mushta) Caucasus Branch TsNIIME  
(Kavkazskiy filial TsNIIME); (Soshnikov) Khar'kov Tractor Plant  
(Khar'kovskiy traktorny zavod) 25 B

TITLE: New wheeled tractor for hauling trees 14

SOURCE: Lesnaya promyshlennost', no. 10, 1965, 9-11

TOPIC TAGS: tractor, towing vehicle, forestry

ABSTRACT: The authors describe a four-wheel tractor constructed by the above-mentioned organizations for experimental forest hauling purposes. The new vehicle was built on the basis of a tractor of the regular T-125 type and was designed for hauling trees with top ends suspended. The tractor can be used in connection with timber carriages or log trailers up to 20 tons at speeds up to 29 km/hr. The tractors can also be equipped with a bulldozer. The vehicle is driven by a 130-hp, 1700-rpm, six-cylinder diesel engine of SMD-462 type. It is 6200 mm long, 2310 mm wide and 2600 mm high. The weight is 8000 kg. The pull 2

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UDC: 634.0.377.4

L 25716-66

ACC NR: AP6004213

of its hoister is 4500 kg. (It is proposed to increase the pull up to 7250 kg). Various tractor operating speeds and tractions were tabulated and some other data (fuel consumption, tires, etc.) were given. The timber hoist apparatus was of TDT-40 type mounted on the rear frame of the trailer. The arrangement and operation of the hoister were explained. The new tractor was tested in the forestries located in various mountainous regions of the Caucasus. Comparative tests with caterpillar tractors of TDT-60 type were organized. The tests were conducted under various conditions including snow-covered areas, steep grades, rough roads, etc. The tests were briefly described proving the higher operational speed of wheeled tractors. In general, it was proven that wheeled tractors of a 3-ton capacity could be used in mountains on grades up to 20 degrees. The tests will be continued. Orig. art. has: 2 photos showing the tractor in operation.

SUB CODE: 1347 SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2

KONONENKO, N. A. (Engineer)

"Selection of the Variants for Organization of Mechanized Works in the Reconstruction of Railroad Tracks." Thesis for degree of Cand. Technical Sci. Sub 3 May 50, Moscow Order of Labor Red Banner Electromechanical Inst of Railroad Engineers (Imeni F. E. Dzerzhinskiy)

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

BUKINA, V.K.; SHUL'TS, A.L.; KONONENKO, N.I.

Microanalytical determination of sulfur in galvanic deposits of  
nickel. Dokl. AN Uz. SSR no.6:27-29 '58. (MIRA 11:9)

1. Institut khimii AN UzSSR. Predstavleno akademikom AN UzSSR  
M.N. Nabiyevym.  
(Nickel plating) (Sulfur) (Microchemistry)



KONONENKO, N.I.

Advantage of extracting selenium from pyritic coking coals.  
Nauch.trudy Perm NIUI no. 4:40-45 '62. (MIRA 17:6)

KUCHERSKIY, L.V.; GETSEN, E.K.; SKRYABIN, V.A.; KONONENKO, N.I.;  
KOLESOV, I.M.; ANDREYEV, V.F.

Industrial safety in carrying out and cementing development  
workings during the occurrence of oil and gas. Nauch. trudy  
Perm NIUI no. 4:103-126 '62. (MIRA 17:6)

KONONENKO, N.I.

Coal tenor of deep mine levels of the western wing and northern  
closing of the main Kizel anticline. Nauch. trudy PermNIUI no.6:  
51-62 '64. (MIRA 8:2)

KONONENKO, N.I.

Some data on the conditions of the formation of minimum runoff  
of the rivers of the Crimea. Trudy Ukr NIGMI no.45:74-80 '64.  
(MIRA 17:10)

KONONENKO, N.F.

Organization of a prolonged ambulatory treatment for patients  
with tuberculosis in Chernigov Province. Probl. tub. 41 no.5:  
3-6 '63. (MIRA 17:1)

1. Iz Chernigovskogo oblastnogo otdela zdravookhrameniya  
(zav. - N.F.Kononenko).

GRACH'YAN, A.N.; ZUBEKHIN, A.P.; KONONENKO, N.V.

Intensifying the grinding of raw materials in the production of  
white Portland cement. Izv. vys. ucheb. zav., khim. i khim. tekhn.  
7 no.5:816-820 '64 (MIRA 18:1)

1. Kafedra tekhnologii vyazhushchikh veshchestv Novochoerkasskogo  
politekhnikheskogo instituta imeni S. Ordzhonikidze.

BONDAREV, Yu.F., kandidat sel'khoz. nauk; KONONENKO, N.V., nauchnyy  
sotrudnik

Rybak ZAN-39 line of the Red Steppe cattle developed for breeding  
purposes and high butterfat production. Trudy "Ask.-Nov." 8:51-72  
'60. (MIRA 14:4)

(Dairy cattle breeding)

KONONENKO, O., master sporta (g.Rostov-na-Donu)

Thus the model was constructed. Kryl.rod. 13 no.1:23 Ja  
'62. (MIRA 15:2)

(Airplanes---Models)



**KONONENKO** **10**

**PROCESSES AND PROPERTIES INDEX**

Syntheses in the *phthalic acid* series. 1. *N*-Chloro derivatives of *phthalic acid*. G. M. Kononenko, *J. Applied Chem.* (U.S.S.R.) 19, 811-15 (1946). *Sulfamylphthalic acid* (5 g.) was dissolved at 0-5° in 39 cc. 8% NaOCl; on acidification there was obtained 30-33% cryst. of the *N,N*-dichloro amide contg. 36.6% active Cl, m. 107-9°; this is poorly sol. in water and is an effective agent against staphylococcus and *B. coli*; its Na salt was obtained by neutralization with Na<sub>2</sub>CO<sub>3</sub> and salting out with NaCl; it crystallizes with 3H<sub>2</sub>O. A higher yield of the dichloro amide is obtained by passage of Cl into a Na<sub>2</sub>CO<sub>3</sub> soln. of the sulfamylphthalic acid (yields of 70-7% are given). When 10 g. 3-sulfamylphthalic acid is dissolved in 30 cc. 8.5% NaOCl at 5° and cooled after addn. of NaCl, there is obtained the acid Na salt of *N*-chloro-3-sulfamylphthalic acid as white needles (74%) which contain 19.75% active Cl. Oxidation of β-tetrasulfonamide according to Schroeter (*Ann.* 436, 17 (1922)) gave 6-sulfamylphthalic acid, decomp. 192-212°; chlorination of its soln. in dil. Na<sub>2</sub>CO<sub>3</sub> gave the *N*-Cl deriv. as a yellow oil, readily sol. in water. G. M. Kosolapoff

**ASS-514 METALLURGICAL LITERATURE CLASSIFICATION**

**FROM NOMIN**

**51437 CHE ONV 111**

VOLOSHIN, A.I.; BOGOYAVLENSKIY, K.A.; AKHTYRCHENKO, A.I.; TURIK, I.A.;  
 ZHIDKO, A.S.; LYALYUK, V.S.; GABAY, L.I.; ONOPRIYENKO, V.P.;  
 STARSHINOV, B.N.; BABIY, A.A.; SAVELOV, N.I.; Prinimali  
uchastiye: TORYANIK, E.I.; VASIL'YEV, Yu.S.; SHEMEI', T.I.;  
 SENYUTA, V.I.; BONDARENKO, I.P.; AMSTISLAVSKIY, D.M.;  
 ANDRIANOV, Ye.G.; SERGEYEV, G.N.; ZAMAKHOVSKIY, I.A.;  
 LYUKIMSON, M.O.; IVONIN, V.K.; TSIMBAL, G.I.; SEN'KO, G.Ye.;  
 KONAREVA, N.V.; SOLODKIY, Yu.L.; LUKASHOV, G.G.; TARASOV, D.A.;  
 GORBANEV, Ya.S.; SUPRUN, I.Ye.; TIKHOMIROV, Ye.I.; KONONENKO, P.A.;  
 PROKOPOV, V.N.; GULYGA, D.V.; PLISKANOVSKIY, S.T.; PONOMAREVA, K.Ye.

Effect of the length of coking on coke quality and the performance  
 of blast furnaces. Koks i khim. no.12:26-32 '61

(MIRA 15:2)

1. Ukrainskiy uglekhimicheskiy institut (for Voloshin,  
 Bogoyavlenskiy, Akhtyrchenko, Turik, Zhidko, Lyalyuk, Toryanik,  
 Vasil'yev, Shemel'). 2. Zhdanovskiy koksokhimicheskiy zavod  
 (for Gabay, Senyuta, Bondarenko, Amstislavskiy, Andrianov,  
 Sergeyev, Zamakhovskiy, Lyukimson, Ivonin, TSimbal). 3. Ural'skiy  
 nauchno-issledovatel'skiy institut chernykh metallov (for  
 Onopriyenko, Starshinov, Babi, Sen'ko, Konareva, Solodkiy).  
 4. Zavod "Agovstal'" (for Savelov, Lukashov, Tarasov, Gorbanev,  
 Suprun, Tikhomirov, Kononenko, Prokopov, Gulyga, Pliskanovskiy,  
 Ponomareva).

(Coke)

(Blast furnaces)

137-58-4-7450

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 158 (USSR)

AUTHOR: ~~Kononenko, P. I.~~

TITLE: The MTPG-75 Suspended Welding Machine (Podvesnaya svaroch-naya mashina MTPG-75)

PERIODICAL: Vest. tekhn. inform. Tsentr. byuro tekhn. inform. trakt. i s.-kh. mashinostr. 1957, Nr 6, pp 29

ABSTRACT: A machine manufactured by the "Elektrik" Plant for spot welding of large objects is described. The welding is by easily transportable hydraulic guns, model KTG-75. A list of the major assemblies of the machine is appended.

O. S.

1. Spot welding--Equipment

Card 1/1

KONONENKO, P.I.

The BM-U3 balancing machine with an **electric measuring**  
device and a stroboscope. Biul.tekh.-ekon.inform. no.12:  
35-36 '61. (MIRA 14:12)  
(Balancing of machinery--Equipment and supplies)

KONONENKO, P. I., inzh.

Over-all automation of circular grinding machines. Machine-  
screenie no.5:13 S-0 '62. (MIRA 16:1)

(Grinding machines) (Automation)

KONONENKO, P.I.

~~New developments~~ in technical equipment. Trakt. i sel'khoz mash.  
no.9:3 of cover S '64. (MIRA 17:11)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i  
sel'skokhozyaystvennogo mashinostroyeniya.

KONONENKO, P.P., laureat Leninskoy premii

High-speed building of blast furnaces. Nauka i zhyttia 9  
no.7:24-28 J1 '59. (MIRA 12:11)

1. Zamestitel' ministra stroitel'stva USSR.  
(Blast furnaces)

KULIK, M.O. [Kulyk, M.O.]; KONONENKO, P.S., преподавател'

Duties of machinery operators of collective farms. Mekh.sil'.  
hosp. 11 no.2:27 F '60. (MIRA 13:6)

1. Glavnyy inzhener Umanskoy remontno-traktornoy stantsii,  
Cherkasskoy oblasti (for Kulik). 2. Umanskiy tekhnikum mekhanizatsii  
sel'skogo khozyaystva (for Kononenko).  
(Agricultural machinery--Maintenance and repair)



BAYER, A.Ya.; KONONENKO, S.G.

Annular drilling of deep holes. Mashinostroitel' no.11:24-26 N '60.  
(MIRA 13:10)

(Drilling and boring)

KONONENKO, S. G.

"Problem of the Sizes and Combinations of Branches of Productive Animal Husbandry in Sovkhozes of the Khar'kov Sovkhoz Trust." Cand Agr Sci, Khar'kov Veterinary Inst, Min Higher Education USSR, Khar'kov, 1955. (KL, No 10, Mar 55)

SO: Sum No 670, 29 Sep 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

69425

S/141/60/003/01/019/020  
E192/E582

9,9000

AUTHORS: Zykov, A. I. and Kononenko, S. G.

TITLE: Measurement of the Input Impedance of a Periodic Waveguide by Means of an Arbitrary Load

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1960, Vol 3, Nr 1, pp 152-155 (USSR)

ABSTRACT: The waveguide considered is shown in Fig 1. The complex reflection coefficient of the system is

$$\bar{p} = p e^{-i(\varphi_{BX} - \delta\varphi)}$$

which is a periodic function of  $L$  (see Fig 1). The parameter  $p$  of the above equation is defined by Eq (1), while  $\text{tg}(\delta\varphi)$  is expressed by Eq (2). In these equations  $\lambda_0$  is the wavelength in the waveguide and  $\varphi'_{BX}$  is the phase of the reflection coefficient at the input when the wave propagates in the reverse direction (Ref 4). Analysis of Eqs (2) shows that if the position of the load is chosen as  $L = L_0$  and  $L = L_0 \pm \lambda_0/4$ , so that the

Card 1/3 phases of the reflection coefficient at the input are

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S/141/60/003/01/019/020  
E192/E582

Measurement of the Input Impedance of a Periodic Waveguide by  
Means of an Arbitrary Load

equal or differ by  $180^\circ$ , two equations are obtained. On the basis of these equations it is possible to obtain the expressions for the standing-wave ratios. The final formulae are:

$$K_{BX} = \sqrt{(K)_{L=L_0} (K)_{L=L_0 \pm \lambda_0/4}} ; \quad (3)$$

$$(K_H)_{L=L_0 \pm n\lambda_0/4} = \sqrt{(K)_{L=L_0} (K)_{L=L_0 \pm \lambda_0/4}} \\ (n = 0, 1, 2, \dots).$$

where the two (K) represent the standing wave ratios of the input line for  $L = L_0$  and  $L = L_0 \pm (\lambda_0/4)$ . Figs 2 show the graphs of the standing wave at the input; these were measured with two different loads at a fixed input impedance. In order to determine rapidly the input impedance it is necessary to measure only the dependence


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69425

S/141/60/003/01/019/020  
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Measurement of the Input Impedance of a Periodic Waveguide by  
Means of an Arbitrary Load

of the position of the standing wave minimum on the position of the load. The practical experience showed that it is possible to construct a load such that it will be fully matched with the waveguide at pre-determined positions. Fig 3 illustrates the dependence of the standing wave ratio and the phase of the reflection coefficient on  $L$  by employing such a "matched" load. It is seen from the figure that the extrema are strongly expressed. There are 3 figures and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Fiziko-tekhnicheskii institut AN UkrSSR (Physics-  
Engineering Institute of the Academy of Sciences of the  
Ukrainian SSR) 

SUBMITTED: April 21, 1959

Card 3/3

S/109/60/005/06/006/021  
E140/E163

AUTHORS: Zykov, A.I., and Kononenko, S.G.

TITLE: Input Impedance of a Periodically Loaded Waveguide  
Measured in a Band of Frequencies Using an Arbitrary  
Load

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 6,  
pp 926-929 (USSR)

ABSTRACT: This paper was presented at a meeting of the Academy of  
Sciences of the Ukr.SSR, Khar'kov, April 7, 1959.  
Adjustable absorption loads are used to match  
periodically loaded waveguides to standard waveguides  
supplying power. The article describes a method and  
formulae for calculating the input impedance of the  
periodically loaded waveguide at an arbitrary frequency  
within the passband. For very long loads the agreement  
of theoretical and experimental results is poorer than  
for short loads. There are 2 figures, 1 table and  
3 references, of which 1 is English and 2 Soviet  
(translated from English).

✓B

Card  
1/2

S/109/60/005/06/006/021

E140/E163

Input Impedance of a Periodically Loaded Waveguide Measured in a  
Band of Frequencies Using an Arbitrary Load

✓B

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR  
(Physico-Technical Institute, Academy of Sciences,  
Ukr. SSR)

SUBMITTED: May 26, 1959

Card 2/2

83275

S/109/60/005/009/025/026  
E140/E455

911300

AUTHORS: Grishayev, I.A., Zykov, A.I. and Kononenko, S.G.

TITLE: Matching of Diaphragmed Waveguide ✓

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.9,  
pp.1549-1553 ✓

TEXT: Matching between a diaphragmed waveguide delay system and a rectangular waveguide is carried out by a matching transition. A reflection-factor meter employing a directional coupler is described. Two methods of obtaining travelling waves in the diaphragmed waveguide are described: 1) the method of adiabatic waveguide; 2) the method of series match. The use of an arbitrary load to measure SWR and reflection phase is described. There are 4 figures and 4 references: 3 Soviet and 1 English.

SUBMITTED: June 17, 1959, initially  
February 29, 1960, after revision

Card 1/1



KONONENKO, S.G.

New geometry of the T-shaped cutter. Mashinostroitel' no.5:31  
My '63. (MIRA 16:7)

(Metal-cutting tools)

VASHUKOV, I.A., inzh.; KONONENKO, S.G., inzh.; MATTIS, G.P., inzh.;  
PESUCHINA, L.T., inzh.; SHOLTS, A.F., inzh.

Furnaces for the local heat treatment of weld joints. Svar.  
proizv. no.7:30-31 JI '63. (MIRA 17:2)

1. Novosibirskiy zavod tyazhelykh stankov i gidravlicheskikh  
pressov im. A.M. Yefremova.

L 13015-63 EWT(1)/BDS/EEG(b)-2 AFFTC/ASD/ESD-3 LJP(C)  
ACCESSION NR: AP3001335 S/0057/63/033/006/0735/0738

AUTHOR: Ostrovskiy, Ye. K.; Zy\*kov, A. I.; Kononenko, S. G.; Makhenko, L. A.;  
Dem'yanenko, G. K.; Manovets, Yu. A.; Rubtsov, K. S.

TITLE: Investigation of a shaping section with constant phase velocity for  
wave propagation 113  
62

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 735-738

TOPIC TAGS: electronics, linear accelerators

ABSTRACT: The axial motion of electrons in a loaded waveguide in which the phase velocity for wave propagation is constant along its length was calculated by the method of J. Swiharta and E. Akeley (J. Appl. Phys., 24, 5, 1953). The waveguide is intended to be the initial section of an electron linear accelerator. The calculations were performed for a section 83 cm long excited to an electric field strength of 67.5 kV/cm and with the electrons injected at an energy of 80 keV. The results are displayed as a family of curves giving the exit electron energy as a function of the entrance phase for different values of the phase velocity from 0.91c to 0.99c. From these results, and taking into account the resolving power of a specific magnetic analyzer, the average energy of the electrons at maximum current in the bunch and the current at maximum density

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L 13045-63

ACCESSION NR: AP3001335

were calculated as functions of the phase velocity. These calculated results do not agree with the experimental data. The experimental data indicate that capture and acceleration occur in a much narrower range of phase velocities. The divergence between experiment and the calculations is ascribed to end effects in the input junction, which is an H sub 10 to E sub 01 transformer similar to the Stanford variant. The effect of putting inserts in the final waveguide cavity at the junction wall was investigated, and an insert that greatly improves the operation was found. The authors do not consider such inserts to be a satisfactory solution, however, owing to their deleterious effect on the electric strength and because of the analytical complications they involve. Orig. art. has: 7 formulas and 3 figures.

ASSOCIATION: Fiziko-tekhnicheskii institut AN USSR, Khar'kov (Physical-Technical Institute, AN USSR)

SUBMITTED: 21May62

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 001

OTHER: 005

Card 2/2

ACCESSION NR: AP3001336

S/0057/63/033/006/0739/0742

AUTHOR: Zykov, A. I.; Makhnenko, L. A.; Ostrovskiy, Ye. K.; Dem'yanenko, G. K.; Kononenko, S. G.; Rubtsov, K. S.; Kramskoy, G. D.; Mufel', V. B.

TITLE: Determination of the optimum frequency of a linear traveling-wave accelerator and investigation of the dependence of accelerated-particle energy on frequency

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 6, 1963, 739-742

TOPIC TAGS: traveling-wave linear accelerator, phase velocity, group velocity accelerator, traveling-wave accelerator, linear accelerator

ABSTRACT: Simplified calculations of phase and group velocities of a traveling-wave linear accelerator using a septate waveguide section are suggested. These are based on the fact that in the case of small waveguide mismatch, i.e., when the VSWR is less than or equal to 1.1, it is possible to derive formulas for these respective parameters by applying the method of shifting the locations of VSWR minima by moving a shorting stub. This eliminates the need to plot complex circular diagrams. Since actual waveguides contain some inhomogeneities, it is necessary to average the standing-wave minimum displacements resulting from translation of the stub in the septate waveguide. The phase-velocity formula is

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ACCESSION NR: AP3001336

obtained by measuring the total linear displacement of the standing-wave minimum during the travel of the stub for the total number of resonators. This formula defines the dependence of phase velocity on frequency. Measurements made by this method for a septate waveguide with type  $\pi/2$  oscillations, a source frequency stability of  $10^{-7}$ , and a septate waveguide period equal to  $2.677 \pm 0.001$  cm showed that for a phase velocity equal to light velocity a frequency of 2796.58 Mc represents the optimum frequency for this waveguide. A straightforward calculation from the phase-velocity formula yields the corresponding group velocity. As regards the dependence of accelerator output on frequency, it is assumed that random deviations of phase velocity are insignificant and that the whole of the waveguide is homogeneous. From this a formula for kinetic energy as a function of frequency is derived. For the waveguide described the relative kinetic energy decreases by a factor of approximately 10 for a frequency change from 2796.6 to 2799 Mc. It is concluded that for septate waveguides with small inhomogeneities the method described determines optimum frequency, and phase and group velocities with adequate accuracy for practical purposes, since the maximum relative error does not exceed  $\pm 0.01\%$ . Orig. art. has: 3 figures and 8 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut, AN SSSR, Khar'kov (Physicotechnical Institute, AN SSSR)

Card 2/3

ACCESSION NR: AF3001336

SUBMITTED: 21May62

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: NS

NO REF SOV: 001

OTHER: 004

Card 3/3

VIZGERT, R.V.; KONONENKO, S.M.; OZDROVSKAYA, I.M.

Kinetics of the reaction of dinitrophenylbenzen<sup>e</sup> sulfonates with  
nucleophilic reagents. Zhur.org.khim. 1 no.2:264-270 F '65.  
(MIRA 18:4)

1. L'vovskiy politekhnicheskoy institut.



Kononenko, T. I. Large bending of thin nonhomogeneous anisotropic plates. *Harkov Gos. Univ. Uch. Zap. 39, Trudy Fiz. Otd. Fiz.-Mat. Fak. 3 (1957), 95-100 (Russian)*

Thin plates with very general linear stress-strain relations are considered. The only restriction on the elastic moduli is that  $\phi_{13} = \phi_{23} = \phi_{33} = 0$  implies  $u_{11} = u_{22} = 0$ , where  $x_1, x_2, x_3$  are rectangular Cartesian axes,  $x_3$  normal to the plate. The displacements  $u_1, u_2$  are assumed to be linear in  $x_3$ ,  $u_3 = \phi(x_1, x_2)$  may be large and second-order terms in  $\phi$  are included in expressions for the strains. The strain energy is calculated and a generalization of the von Karman large-deflection equations obtained by considering its variation.

IVASHKEVICH, G.A. (L'vov); CHERNAYA, L.A. (L'vov); KOTLYARENKO, B.N. (L'vov);  
KONONENKO, T.S. (L'vov)

Intracarotid administration of antitetanus serum in the treatment  
of tetanus. Klin.med. 40 no.10:73-77 O '62. (MIRA 15:12)

1. Iz kliniki infektsionnykh bolezney (zav. - dotsent B.N.  
Kotlyarenko) L'vovskogo meditsinskogo instituta i laboratorii  
ranevykh infektsiy (zav. - prof. L.A.Chernaya).  
(TETANUS) (TETANUS ANTITOXIN)

LEZHEBRUKH, G.O., kandidat tekhnicheskikh nauk; KOMOMENKO, T.V., inzhener.

Efficient technology in processing staple fiber in fine-comb  
spinning of wool. Tekst.prom.16 no.4:27-31 Ap '56. (MIRA 9:7)  
(Woolen and worsted spinning)

KONOVENKO, T.V.; MELINA, N.I.; ANTIPOVA, N.P.; ROZHKOVA, V.V.; VASIL'YEVA,  
V.V.

Using new synthetic fibers in the woolen industry. Tekst. prom. 18  
no. 8:10-14 Ag '58. (MIRA 11:10)  
(Textile fibers, Synthetic) (Woolen and worsted manufacture)

ROZHKOVA, V.V., inzh.; KONONENKO, T.V., inzh.; PANICHEVA, A.A., kand. tekhn.  
nauk; ANTIPOVA, N.P., inzh.; KORSAKOVA, V.B., inzh.; VASIL'YEVA,  
V.V., inzh.

Technology for the processing of staple lavsan in woolen and  
worsted manufacture. Nauch.-issl. trudy TSNIIShersti no.17:  
56-68 '62. (MIRA 17:12)

KONONENKO. T.V., inzh.; YEFIMOVA, N.S., inzh.; ROZHKOVA, V.V., inzh.

Studying the properties of synthetic fibers. Nauch.-issl.trudy  
TSNIIShersti no.18:63-75 '63. (MIRA 18:1)

KONONENKO, T.V.

Quality indices of viscose staple fiber. Khim.volok. no.4:58-60  
'60. (MIRA 13:10)

1. Tsentral'nyy nauchno-issledovatel'skiy institut shersti.  
(Rayon)

KONONENKO, T.V.

Use of synthetic fibers in woolen manufacture. Tekst.prom. 21  
no.11:13-14 N '61. (MIRA 14:11)

1. Rukovoditel' otдела pererabotki khimicheskikh volokon  
TSentral'nogo nauchno-issledovatel'skogo instituta sherstyanyoy  
promyshlennosti (TSNIIShersti).

(Textile fibers, Synthetic)  
(Woolen and worsted manufacture)



GUSEV, Vladimir Yegorovich; Balyasnikov, P.S., retsenzents; KONONENKO, T.V., retsenzents; SEVOST'YANOV, A.G., retsenzents; VERBITSKAYA, Ye.M., red.; TRISHINA, L.A., tekhn. red.

[Efficient methods of processing wool and synthetic fibers]  
Ratsional'nye metody pererabotki shersti i khimicheskikh volokon. Moskva, Rostekhnizdat, 1962. 357 p. (MIRA 16:2)  
(Wool and worsted manufacture)  
(Textile fibers, Synthetic)

KONONENKO, T.V., inzh.

Studies in the field of the processing of wool blends with  
synthetic fibers in worsted spinning. Nauch.-issl.trudy TSNII  
Shersti no.16:18-34 '61. (MIRA 16:11)

KONONENKO, T.V.

Effect of the value of breaking elongation and of the characteristics of deformation of synthetic staple fiber on the strength of mixed yarn. Khim.volok. no.3:60-64 '62. (MIRA 16:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sherstyanoy promyshlennosti.

(Textile fibers, Synthetic—Testing)

KONONENKO, T.V.

Evaluating the quality of fiber blending under the conditions of  
simplified spinning plans in wool and worsted manufacture. Tekst.-  
prom. 22 no.6:41-44 Je '62. (MIRA 16:5)

1. Sotrudnik Tsentral'nogo nauchno-issledovatel'skogo instituta  
sherstyanoj promyshlennosti (TsNII Shersti),  
(Spinning)

KONONENKO, T.V., nauchnyy sotrudnik; ROZHKOVA, V.V., nauchnyy sotrudnik

Use of nitron in the woolen and worsted industry. Tekst.prom.  
24 no.1:19-21 Ja '64. (MIRA 17:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut sherstyanoy  
promyshlennosti (TsNII Shersti).

L 44130-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/ETI/EWT(k)/EWP(h)  
ACC NR: AP6022404 SOURCE CODE: UR/0317/66/000/002/0039/0041  
IJP(c) JD

AUTHOR: Kononenko, V. (Doctor of technical sciences); Zaytsev, K. (Candidate of technical sciences); Semenov, V. (Candidate of technical sciences) 52  
47  
B

ORG: none

TITLE: Technological reserves for military engineering

SOURCE: Tekhnika i vooruzheniye, no. 2, 1966, 39-41

TOPIC TAGS: military engineering, portable machine, punching machine, explosive charge, impact strength, *fabricated structural metal, high strength steel/30Kh GSA steel, 1Kh18N9T steel*

ABSTRACT: The use of progressive technological methods and new technological processes for military purposes is stressed by the authors. A detailed description is given of an explosive device intended to punch holes in metal plates. This portable punching machine weighs 25—30 kg and utilizes the explosive force generated by the combustion of 2.3 kg of powder, which is equivalent to the pressure of 560 atm.

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L 44130-66

3

ACC NR: AP60222404

The energy output of this device is equal to the power of a 75-ton press. In 1 min it is possible to punch 3 or 4 holes, 21—25 mm in diameter, in metal plates 12—14-mm thick and in such impact-resistance materials as 30KHGSA and 1X18N9T steels. Orig. art. has: 3 figures. <sub>(8)</sub> <sub>(8)</sub> <sub>(8)</sub> [AM]

SUB CODE: 13/5/SUBM DATE: none/

LS

2/2

GESIK, I.I.; KONOHEKO, V. (Berdiansk)

Reorganization of medical service for industrial workers. Vrach.  
delo no.7:104-106 JI '60. (MIRA 13:7)  
(BERDYANSK--LABOR AND LABORING CLASSES--MEDICAL CARE)



MASLYUKOVA, L.; KONONENKO, V.

Working the communist way. Vest.prom. i khud.promysl. 2 no.9:13  
S '61. (MIRA 14:11)

1. Sekretar' partiynogo byuro Dobranskogo promyshlennogo kombinata (for Maslyukova).
  2. Predsedatel' raionnogo komiteta, p. Dobryanka, Chernigovskoy oblasti (for Kononenko).
- (Chernigov Province--Communist Party of the Soviet Union--Party work)

KONONENKO, V., kand.tekhn.nauk, izobretatel' (Khar'kov); KOTEL'NIKOV, V., inzh.  
(Khar'kov); ZAYTSaV, K., inzh. (Khar'kov); KUSHNARENKO, S., inzh.  
(Khar'kov)

Controlled explosion. Izobr.i rats. no.12:4-6 D '62. (MIRA 15:12)  
(Explosions)

P. SOV/24-58-8-15/37

AUTHORS: Kozyrskiy, G. Ya., Kononenko, V. ~~Q~~ and Okrainets, P.N.  
(Kiyev)

TITLE: Investigation of the Structural Changes in a Nickel-Chromium Alloy During Creep (Issledovaniye strukturnykh izmeneniy v nikel'-khromovom splave pri polzuchesti)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 8, pp 90-92 (USSR)

ABSTRACT: The structural changes at elevated temperatures and pressures which lead to considerable changes in the physical and mechanical properties have been investigated by various authors (Refs.1-4). In this paper the results are described of investigations of structural changes which take place in a Ni-Cr alloy during creep. The investigations were carried out mainly by X-ray structural and metallographic analyses on specimens of an alloy containing 80.2% Ni and 19.8% Cr. The microstructure in the original state contained equiaxial fine grains, the average diameter of which varied between 0.2 and 0.3 mm. X-ray investigations have shown that the alloy is in the metastable state with a sub-structure

Card 1/4 which is characteristic for this state and that Type II

Investigation of the Structural Changes in a Nickel-Chromium Alloy  
During Creep

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and Type III distortions are present. Three series of specimens were produced, the first was annealed at 700°C for 4.8 and 16 hours. However, the X-ray patterns did not indicate any appreciable change in the state of the alloy. Additional annealing at 800°C for two hours has also not resulted in any appreciable changes in the X-ray patterns, the hardness remained the same as prior to annealing. The second series of specimens were annealed in evacuated quartz ampules at 1170°C for 64 hours; the grains grew to an average size of 0.5 to 0.6 mm, lattice distortions ceased to exist, the hardness decreased and an intensively developed twinning structure was observed. Etching revealed only the twin boundaries and clearly pronounced fine grain boundaries. The third series of specimens were investigated for creep without any preliminary heat treatment on an MP-4 test machine at 700°C with a load of 10 kg/mm<sup>2</sup>; specimens of 5 mm dia. and 50 mm length were tested. To carry out X-ray structural and micro-structural investigations, the creep tests were

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discontinued and then restarted. Creep curves for the first and second series of specimens are graphed in Fig.1. In Fig.2 the change in the hardness, the creep speed and the width of the (311) line are graphed for the first series of specimens as a function of time. In Fig.3 the changes of the creep speed and of the hardness as a function of time are graphed for the second series of specimens. In Fig.4 X-ray patterns are reproduced for the specimens of the first series after annealing for 16 hours at 700°C and additionally for 2 hours at 800°C followed by creep tests for zero, 4, 8, 35 and 70 hours. On the basis of the obtained results the following conclusions are arrived at:

1. During the first stage of creep of the alloy, which is in the metastable state, processes of perfection of the crystal lattice proceed faster than in the case of the alloy being exposed solely to the effect of the temperature.
2. The creep speed is determined not only by the temperature and the load at which the creep proceeds but

Card 3/4

alloys--Temperature factors

KONONENKO, V. A.

SOV/137-59-2-3880

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 224 (USSR)

AUTHORS: Kozyrskiy, Kononenko, Okrainets [Kozyrs'kyy, H. Ya., Kononenko, V. A., Okrainets', P.M.]

TITLE: A Study of Structural Changes During Creep of Nickel (Izucheniye izmeneniy struktury nikelya pri polzuchesti) in Ukrainian

PERIODICAL: Ukr. fiz. zh., 1958, Vol 3, Nr 3, pp 391-396.

ABSTRACT: A report on a novel X-ray diffraction method of studying structural changes occurring in individual grains of large crystal materials in the process of creep. It is shown that crushing of grains in the first stage begins almost immediately after the loading of the specimen. The crushing of grains and an increase in the angles of their sub-grain structure is particularly intense in the beginning of a test. These processes progress more rapidly in large grains than in small grains. In the second stage, the deformation proceeds primarily by a mechanism of viscous flow along the grain boundaries. In the process, the grains themselves are rotated by  $\sim 30^\circ$  with respect to each other. Owing to the movement of the grains the surface of the specimen acquires a step-like appearance and cracks are formed within the

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A Study of Structural Changes During Creep of Nickel

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specimen; it is along these cracks that the failure of the specimen occurs.

P. N.

*Inst. Metallophysics, AS Ukr SSR*

Card 2/2

SOV/120-59-1-14/50

AUTHORS: Savel'yev, V. Ya. Kononenko, V. A.

TITLE: An Investigation of Slow Neutron Counters (Issledovaniye schetchikov medlennykh neytronov)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 1, pp 61-64 (USSR)

ABSTRACT: In a proportional counter the coefficient of gas amplification is independent of the original ionisation so that the charge collected due to a single particle is given by:

$$q = en_0 k \quad (1)$$

where  $e$  is the electronic charge,  $n_0$  is the number of electrons produced by the ionising particle and  $k$  is the gas amplification coefficient. In the absence of secondary avalanches ( $\gamma = 0$ ) the size of the pulse depends only on the original ionisation, the coefficient of gas amplification and the elements of the system. In neutron counters

which use the reaction  $B^{10}(n, \alpha)Li^7$  the ionising agent is the  $\alpha$ -particle with an energy of about 1.6 MeV and the recoil nucleus which has an energy of about 0.9 MeV. The range of Card 1/6 the  $\alpha$ -particle and the lithium nucleus in air is 0.8 and 0.4cm



SOV/120-59-1-14/50

# An Investigation of Slow Neutron Counters

respectively. It follows that in counters whose dimensions are large the majority of  $\alpha$ -particle emissions is associated with complete use of the energy and the formation of the same original ionisation (Refs 1-4). It follows that the main factor which determines the pulse height in (1) is the coefficient of gas amplification  $k$ . Determination of the coefficient  $k$  as a function of voltage and pressure is difficult but in the present case it may be simplified as follows. Consider a counter of cylindrical construction. The electric field  $E$  is given by:

$$E = V_0/r \ln (b/a) \quad (2)$$

where  $V_0$  is the potential difference and  $b$  and  $a$  are the radii of the cathode and anode respectively. The region of avalanche ionisation is given by:

$$\lambda E \geq U_i \quad (3)$$

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# An Investigation of Slow Neutron Counters

where  $\lambda$  is the electron mean free path in the gas and  $U_i$  is the ionisation potential. If one assumes that  $\lambda$  is independent of the electron energy then the potential for the avalanche to begin is determined by:

$$(r_i - a)/\lambda \geq 1, \quad (4)$$

where  $r_i$  is the distance from the centre of the wire at which the field intensity is sufficiently high to give to the electron sufficient energy to ionise a gas atom. It follows from the above expressions that:

$$V_i = U_i \ln \frac{b}{a} \left[ 1 + \frac{a}{\lambda_0} P \right] \quad (6)$$

In practice, any counting device has some threshold  $V_D$  so that the counter will start working when the voltage is such that the number of collisions  $N_D$  of a primary electron before it reaches the wire is sufficient to form an electron

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# An Investigation of Slow Neutron Counters

avalanche and a pulse whose amplitude exceeds the threshold,  
Under these conditions:

$$V_i = U_i \ln \frac{b}{a} \left[ N_D + \frac{a}{\lambda_0} P \right] \quad (7)$$

To determine the amplitude of the pulse it is noted that each primary electron produces an electron pair in each mean free path. It follows that in a length  $r_i - a$  it forms the following number of electrons:

$$n = 2^{(r_i - a)/\lambda} \quad (8)$$

Thus the total charge received by the wire is:

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# An Investigation of Slow Neutron Counters

$$q = en_0 2^{(r_i - a)/\lambda} \quad (9)$$

It follows that the potential of the wire for  $RC \rightarrow \infty$  is given by:

$$A = \Delta V = \frac{en_0}{C} 2^{(r_i - a)/\lambda} = \frac{en_0}{C} \exp\left(\frac{r_i - a}{\lambda} \ln 2\right) \quad (10)$$

When  $A = V_D$  one finds that:

$$V_i = U_i \ln \frac{b}{a} \left[ \ln \frac{CV_D}{n_0 e} / \ln 2 + \frac{a}{\lambda_0} P \right] \quad (13)$$

Experiments have shown that this formula represents the

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phenomenon quite well and may be used to find the mean free path of an electron in  $\text{BF}_3$  gas. There are 3 figures and 4 Soviet references, 3 of which are translations from English.

SUBMITTED: February 10, 1958.

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RODNONENKO, U.A.

18(4,7); 25(1)

PHASE I BOOK EXPLOITATION

SOV/2306

Akademiya nauk Ukrainskoy SSR. Institut metallofiziki

Voprosy fiziki metallov i metallovedeniya (Problems in the Physics of Metals and Metallography) Kiyev, Izdo-vo AN Ukrainskiy SSR, 1959. (Series: Its: Sbornik nauchnykh rabot, Nr 9) Errata slip inserted. 3,000 copies printed.

Ed. of Publishing House: V.L. Shkurko; Tech. Ed.: M.I. Yefimova; Editorial Board: V.N. Svechnikov, Academician, Academy of Sciences, Ukrainian SSR (Resp. Ed.); S.D. Gertsriken, Doctor of Physical and Mathematical Sciences; and I.Ya. Dekhtyar, Doctor of Technical Sciences.

**PURPOSE:** This collection of articles is intended for scientific workers, aspirants, and engineers in the fields of the physics of metals, metallography, and metallurgy. It may also be useful to students of advanced courses in metallurgical and physical faculties.

**COVERAGE:** This collection of articles deals with the following

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Problems in the Physics of Metals (Cont.)

30V/2306

topics: effect of high-speed heating, heat treatment, deformations, and crystallization conditions on phase transformations, structures, and properties of metals and alloys; the effect of additional alloying components on volumetric and intercrystalline diffusion in alloys; and the effect of repeated quench hardening and radioactive and ultrasonic treatment on the physical properties of alloys. No personalities are mentioned. References follow several of the articles.

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Kurdyumov, G.V., and L.G. Khandros. Transformation of Fine Particles of Fe-Ni Alloys to Martensite

3

Transformations of filings of two alloys (33 percent Ni and 28.6 percent Ni) annealed in quartz ampoules were studied.

Khandros, L.G. Changes in the Austenitic State of Manganese Steel During Transformation to Martensite

7

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Problems in the Physics of Metals (Cont.)

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The investigation was conducted on samples, 1mm. in diameter and 10mm. in length, of steels of the following composition: 1.4 percent carbon and 4.2 or 3.6 percent manganese. The samples were heated to 1000°C. and water quenched.

Kozyrskiy, G.Ya., V.A. Kononenko, and P.N. Okrainets. Study of Structural Changes in Nickel During Creep Based on Reflections of Individual Grains

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This method of studying structural changes is based on the fact that X-ray patterns of annealed specimens with perfect crystalline structures show sharp reflections of grains. From the deformation of the grains, conclusions on structural changes in the metal can be drawn. Special features of structural changes in the first and second stages of creep of nickel were discovered through this method.

Lysak, L.I., and Yu.P. Sogrishin. Effect of Plastic Deformation on Internal Stresses in Metal

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KONONENKO V.A.

APPROVED FOR RELEASE: 06/19/2000

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PHASE I BOOK EXPLOITATION

SOV/4177

Akademiya nauk Ukrainskoy SSR. Institut metallofiziki

Voprosy fiziki metallov i metallovedeniya (Problems in the Physics of Metals and Metallography) Kiev, Izd-vo AN USSR, 1959. 215 p. (Series: Its: Sbornik nauchnykh rabot, no. 10) 3,000 copies printed.

Ed. of Publishing House: O.M. Pechkovskaya; Tech. Ed.: R.A. Buniy; Editorial Board: V.N. Svechnikov, Academician, Academy of Sciences UkrSSR (Resp. Ed.), S.D. Gertsriken, Doctor of Physics and Mathematics, and I.Ya. Dekhtyar, Doctor of Technical Sciences.

PURPOSE: This collection of articles is intended for scientific workers, aspirants and engineers working in metal physics, metallography and metallurgy, and for students in advanced courses of metallurgy and physics departments.

COVERAGE: The collection of articles gives the results of an investigation of the effect of high heating rates, thermal treatment, deformation and crystallization conditions on the phase transformations, structure and properties of metals and alloys, and of the effect of alloying additives on volume and intergranular

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Problems in the Physics of Metals and Metallography

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diffusion in alloys, as well as the effect of repeated tempering by ultrasound irradiation on the physical properties of alloys. There is also a description of an x-ray camera for studying the structure of the individual grains. The following personalities are mentioned: V. Raksha, A.A. Smirnov, S.G. Glazunov, Ye.I. Morozov, V. Danilenko, L.M. Kikot', and I. Ya. Dekhtyar', Doctor of Technical Sciences. There is a bibliography of Soviet and non-Soviet references at the end of each article.

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